



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

MISZCZAK ET AL.

Appl No.: 09/227,242

Filed: 8 January 1999

For: "Ultra Low Carbon Metal-Core Weld Wire"

Atty. Docket No. 8313

Examiner M. Elve

Art Unit 1752

AFFIDAVIT UNDER 37 CFR 1.132

Assistant Commissioner for Patents
Box Fee Amendment
Washington, D.C. 20231

SIR:

I, Grant HARVEY, hereby declare the following:

1. That I am a resident of WOODSTOCK, ONTARIO, CANADA and a citizen of CANADA.
2. That I am an employee of ITW HOBART Brothers of Canada (Hobart), Woodstock Ontario, a Division of Illinois Tool Works Inc., Glenview Illinois, the assignee of record of the referenced patent application;
3. That Hobart is a designer, manufacturer and industrial supplier of weld wire;
4. That prior to the filing of the referenced patent application, Hobart embarked on a strategic initiative to develop low fume weld wires without loss of performance characteristics, motivated in part by industries desires to reduce welding fumes generally and to comply with governmental regulations;

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5. That Hobart has developed metal-core weld wires having low fumes and good performance characteristics that are the subject of the referenced patent application, particularly the claims thereof;
6. That Hobart sells low fume metal-core weld wires under the commercial names "FabCOR80XLS" and "~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716}". A Sales Brochure for the ~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716} is attached hereto as EXHIBIT A;
7. That the "FabCOR80XLS" and "~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716}" metal-core weld wires have compositions recited in at least one of Claims 1 or 21 of the present invention, particularly the carbon content in the range of Claim 1 or 21, the metal-core composition weight percentage in the range of Claim 1 or 21, and the metal-core carbon content in the range of Claim 21;
8. That sales of the "FabCOR80XLS" and "~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716}" metal-core weld wires have been commercially successful since being introduced into the market, and that said sales are growing substantially, as indicated on the Sales Data Sheets, which true copies of business records kept and maintained in the ordinary course of business of ITW Hobart Canada, attached hereto as EXHIBIT B;
9. That the "FabCOR80XLS" and "~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716}" low fume metal-core weld wires have substantially displaced the use of flux-core weld wires by some customers of ITW Hobart CANADA by virtue of the relatively low fume production of the "FabCOR80XLS" and "~~FabCOR96XLS~~ ^{ECLIPSE ULTIMET 716}" metal-core weld wires and their compliance with industry specifications;

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10. That the "FabCOR80XLS" and ^{ECLIPSE ULTIMET 716} ~~"FabCOR80XLS"~~ low fume metal-core weld wires have enabled customers to comply with trade union and regulatory mandates by virtue of their low fume production;
11. That all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Grant HARVEY

April 2001

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HOBART

Metal Cored Arc Welding Products

ULTIMET 716**Key Benefits:**

Extra low smoke, smooth and stable arc, high deposition rates

Approvals:

CSA/CWB W48.5-M, Class E4801C-6-CH

Conformances:

AWS A5.18, Class E70C-6M -6C

ASME SFA5.18, Class E70C-6M, -6C (F6, A1)

Characteristics:

ULTIMET 716 is a premium gas shielded metal cored tubular wire. As part of the ECLIPSE family of welding consumables this wire is designed to have extra low smoke emission levels.

ULTIMET 716 provides high deposition rates and deposition efficiency. It performs especially well in areas where part fit-up is a problem. Easy to set welding parameters combined with exceptional weld bead appearance are the reason we consider this wire the "ULTIMET" metal cored tubular wire on the market.

Applications:

This wire is designed for both single and multi-pass welding of low and medium carbon steels in the flat and horizontal position. It is formulated for shops where smoke and fume emission levels are an issue. It is ideally suited for high production and automated applications where large quantities of filler metal can be deposited with a minimum amount of smoke, spatter and slag. Suitable for a wide variety of welding applications including rail cars, steel structures, storage vessels, mining and construction industry.

Mechanical Properties:

Shielding Gas Used	Tensile Strength MPa (psi)	Yield Strength MPa (psi)	Elongation %	Charpy V-Notch Impact Values Joules(ft. lbs.) As welded @ -30°C (-20°F)
100% CO ₂	560 (81,200)	480 (70,000)	30	52 (38)
92% Ar / 8% CO ₂	575 (83,400)	490 (71,000)	30	40 (30)

Note: All values are typical.

Chemical Composition of Weld Metal (%):

Shielding Gas Used	C	Mn	Si	P	S
100% CO ₂	0.026	1.48	0.75	0.010	0.010
92% Ar / 8% CO ₂	0.029	1.70	0.83	0.010	0.010

Note: All values are typical.

MCMS-002 Rev.2

04/00

The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty and Hobart Brothers of Canada expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with CSA specifications W48.5M. Other tests and procedures may produce different results. No data is to be construed as a recommendation or technique not controlled by Hobart Brothers of Canada.

Material Safety Data Sheets (MSDS) on any Hobart Brothers of Canada product may be obtained from Hobart Customer Service.

Hobart and Eclipse are registered trademarks of the Illinois Tool Works Company.

Hobart Brothers of Canada

P.O. Box 150, 807 Pattullo Ave.,

Woodstock, Ontario N4S 7W8

Phone: (877) 422-9353, Fax: (519) 421-0480

ITW
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ULTIMET 716**Welding Position:**

Flat / Horizontal
Vertical Up - 1.2mm (0.045") only

Shielding Gas(es):

100% CO₂ to 92% Argon / 8% CO₂

Gas Flow Rates:

20 l/min - 30 l/min (40 ft³/hr - 60 ft³/hr)

Polarity:

Direct Current Electrode Positive (DCEP), Reverse Polarity

Recommended Operating Parameter Ranges:

Wire Diameter		Arc Voltage (volts)	Wire Feed Speed		Electrode Stick Out		Current (amps)	Deposition Rate	
mm	inches		cm/min	lpm	mm	inches		kg/hr	lbs/hr
1.2	0.045	25	790	310	16	5/8	250	3.8	8.4
1.2	0.045	27	1000	395	16	5/8	294	5.0	11.0
1.2	0.045	29	1300	510	16	5/8	363	6.4	14.1
1.4	0.052	25	890	350	16	5/8	295	5.2	11.4
1.4	0.052	27	1000	395	16	5/8	330	5.7	12.6
1.4	0.052	29	1160	455	16	5/8	380	6.6	14.6
1.6	1/16	25	760	300	19	3/4	340	6.3	13.8
1.6	1/16	27	890	350	19	3/4	380	7.4	16.2
1.6	1/16	29	1040	410	19	3/4	430	8.5	18.8

Note: 1) Highlighted areas are optimum values
2) Shielding gas used: 92% Ar / 8% CO₂

Available Packaging:

Wire Diameter		Standard Package	Standard Pallet	Stock Number
mm	Inches			
1.2	0.045	15 kg Steel Reel	540 kg	716-12-150GS
1.2	0.045	25 kg Coil	500 kg	716-12-250C
1.2	0.045	200 kg Precision Drum	400 kg	716-12-200PD
1.4	0.052	15 kg Steel Reel	540 kg	716-14-150GS
1.4	0.052	200 kg Precision Drum	400 kg	716-14-200PD
1.6	1/16	15 kg Steel Reel	540 kg	716-16-150GS
1.6	1/16	25 kg Coil	500 kg	716-16-250C
1.6	1/16	200 kg Precision Drum	400 kg	716-16-200PD

Note: Other packaging options may be available, please consult Hobart Customer Service for availability and order requirements.